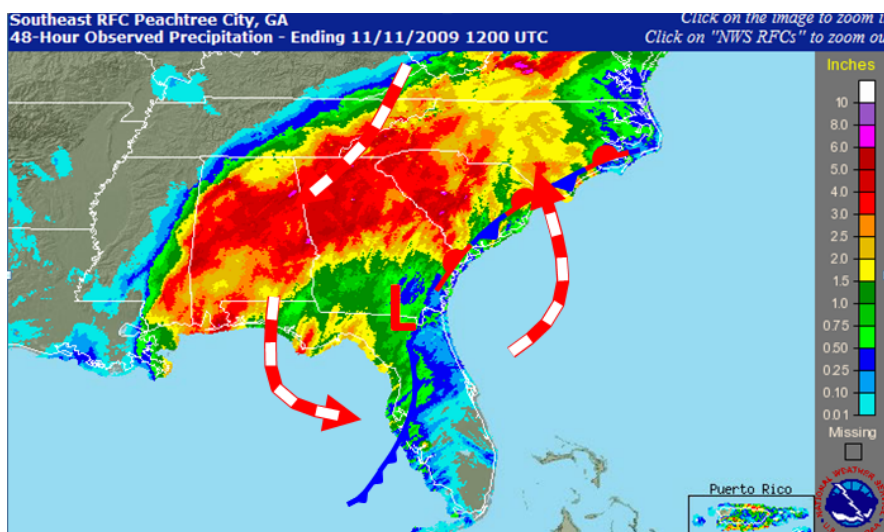




**November 11, 2009**

An area of low pressure, which was once T.S. Ida, was located over north Florida and was moving northeast. This system quickly transitioned from a purely tropical system into an “extratropical” system – a system with traits both tropical and non-tropical. These types of systems are often heavy rain producers when efficient tropical rainfall, along with a strong inflow of gulf moisture, interacts with some type of inland (synoptic-scale) boundary.



A deformation zone is often set up to the north and northwest of the path of the low. A deformation zone is an area in the atmosphere where winds converge along one axis and diverge along another. Deformation zones are often the area of highest rainfall.

SERFC hydrometeorologists were expecting this to occur and forecast the heaviest rain from central and north Alabama, across North Georgia and into the western Carolinas.

In the above multi-sensor rainfall estimate (MPE) the areas of red indicate rainfall of 3 to 6 inches. This widespread heavy rain fell over an area with high soil moisture due to the previous extreme rains and flooding in September. Consequently, many rivers are flooding in this region.

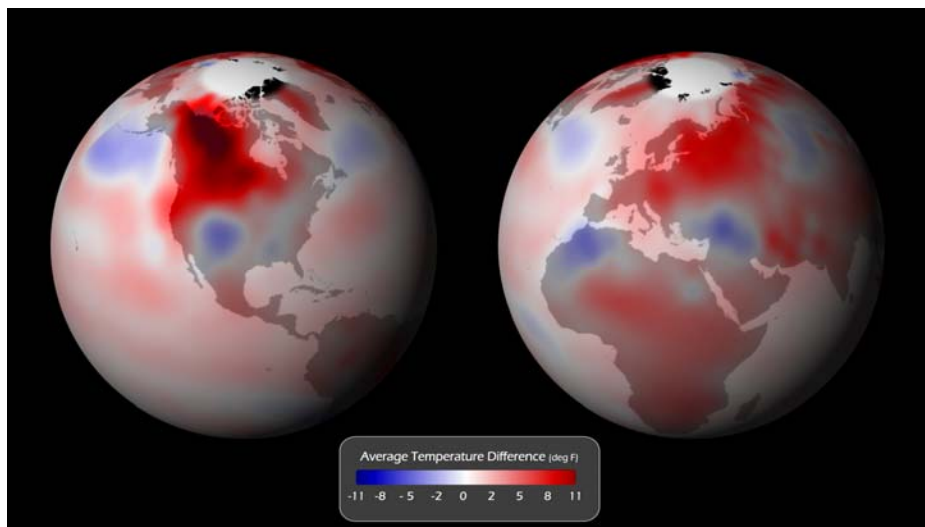
This low will move off-shore and race to the northeast. It will intensify rapidly with an inflow of Atlantic moisture resulting in heavy coastal Carolina rains.

## November 3, 2009

Following is an image of global surface temperature anomalies for the month of September 2009. The combined global land and ocean surface temperature was the second warmest September on record based on records going back to 1880.

NOAA scientists also reported that the average land surface temperature for September was the second warmest on record, behind 2005. Additionally, the global ocean surface temperature was tied for the fifth warmest on record for September.

While global temperatures were near record highs for the month, the Southeast U.S. was generally cooler than normal over most areas.



## Other Highlights

Arctic sea ice covered an average 2.1 million square miles in September - the third lowest for any September since records began in 1979. The coverage was 23.8 percent below the 1979-2000 average, and the 13th consecutive September with below-average Arctic sea ice extent.

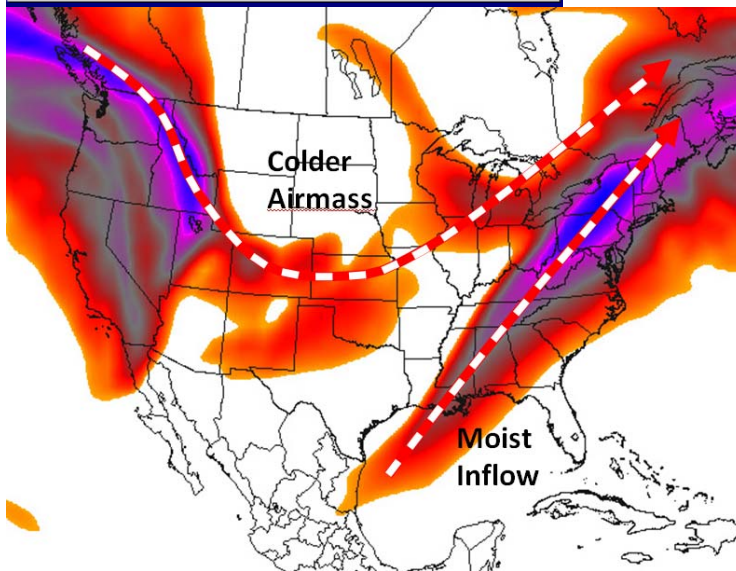
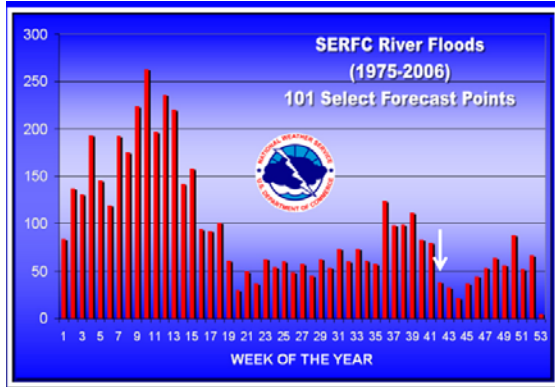
Antarctic sea ice extent in September was 2.2 percent above the 1979-2000 average. This was the third largest September extent on record, behind 2006 and 2007.

Typhoon Ketsana became 2009's second-deadliest tropical cyclone so far, claiming nearly 500 lives across the Philippines, Cambodia, Laos and Vietnam. The storm struck the Philippines on September 26, leaving 80 percent of Manila submerged.

## October 21, 2009

A look ahead...

This is supposed to be a quiet time of the year rain and flood-wise. The following graph shows that we should be heading towards an annual minimum of flood activity.



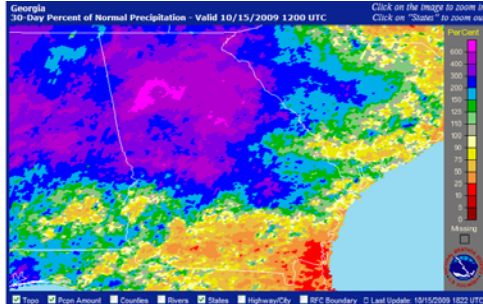
Instead, we continue to be in a fairly active flow pattern. The second image above shows the current jet stream analysis with the areas in color indicating strong upper-level winds. Over the next week or two the northern jet stream, indicating the boundary between colder and dry air and warmer moist air, will tend to undulate both south and north. This will result in a frontal passage every 5 days or so, each with a rain event, and a significant fluctuation in temperature.

The next front will pass on Friday and Saturday. This could tap Eastern Pacific tropical moisture (at upper levels) while providing an inflow from the Gulf of Mexico at lower levels. Heavy rain is thus possible over parts of the Southeast U.S.

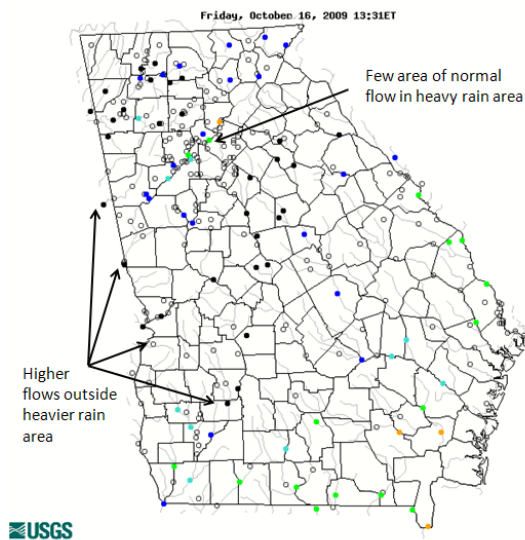
## October 16, 2009

### Why So Much Water Downstream?

The top image below shows a 30-day percent of normal rainfall across Georgia. The large area of blue and purple indicates rainfall 2 to over 6 times normal for this period of time.



The following graphic is a U.S.G.S. stream flow summary. Black and blue dots indicate well above normal stream flow. So, why the high flows over Southwest and Central Georgia where rainfall was not all that high? Also, why a few green dots (normal stream flow) near Atlanta where there has been tremendous rain?



The higher flows over Southwest & Central Georgia are mainly due to water still working its way downstream from the heavier rain areas. It can take quite some time for water from North Georgia to work its way through river systems.

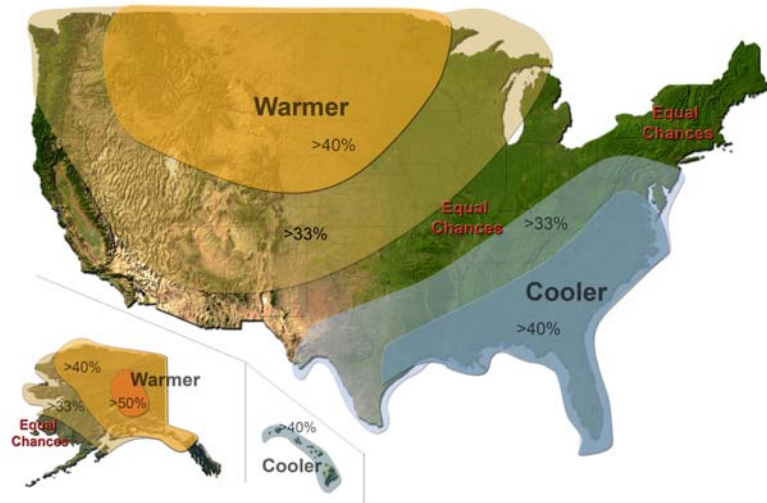
Some of the green dots near Atlanta are areas immediately below reservoirs. Reservoir operators try to reduce outflows during times of high water to help protect downstream communities from flooding. Also, some of the smaller streams near Atlanta tend to rise very rapidly and fall just as quickly.

**October 15, 2009**

El Niño in the central and eastern equatorial Pacific Ocean is expected to be a dominant climate factor that will influence the December through February winter weather in the United States. Here is the just-related outlook for winter.

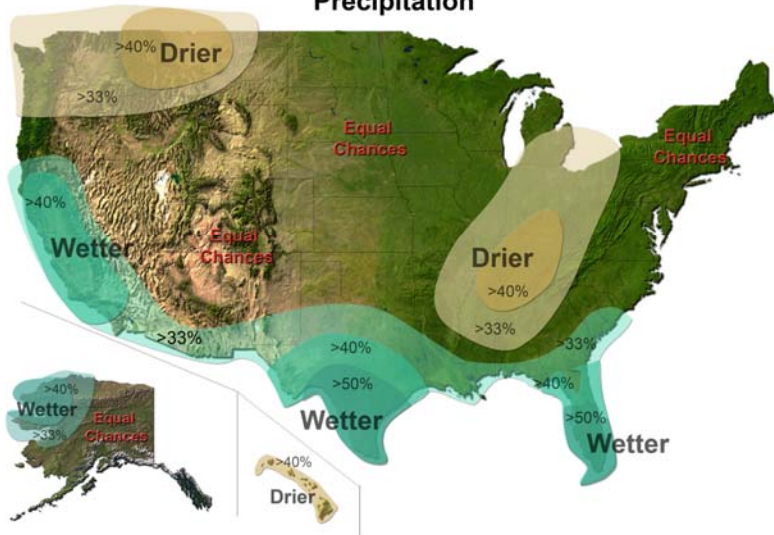
## **U.S. Winter Outlook**

### **Temperature**



## **U.S. Winter Outlook**

### **Precipitation**

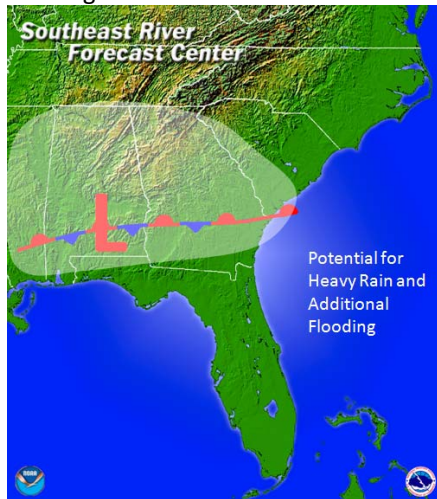




**October 13, 2009**

Low pressure will move eastward along a stationary boundary through Thursday resulting in areas of heavy rain over much of Mississippi, Alabama, Georgia, and the Florida Panhandle. Widespread 1- to 3-inch rains are forecast with pockets of rainfall exceeding 5 inches.

This area is already quite wet. Much of north and central Mississippi, Alabama, and Georgia can take only an inch or two of rain (over 3 hours) before flash flooding occurs.



The yellow dots below indicate river locations where minor flooding is forecast, with red indicating moderate flooding. Additional flooding is possible this week due to heavy rainfall.

